AMENDMENTS TO THE CLAIMS

1-30. (Cancelled)

31. (Currently Amended) An apparatus for processing microelectronic workpieces, comprising:

a vessel having an inner portion and an outer portion positioned outwardly from the inner portion, the inner portion being configured to be coupled to a source of processing liquid;

a wall between the inner portion and the outer portion, the wall being positioned to receive processing liquid proceeding upwardly through the inner portion;

an electrode support positioned in the inner portion of the vessel;

an electrode at the electrode support;

a flow control structure positioned above the electrode support, the flow control structure including a liquid pervious portion, ~~and~~ a liquid impervious portion disposed annularly outwardly from the liquid pervious portion, and a plurality of fluid passageways in the liquid pervious portion, wherein the fluid passageways have a uniform size and spacing in the liquid pervious portion and are configured to reduce turbulance in the processing solution; and

a head assembly having a workpiece holder configured to position a semiconductor workpiece at a processing site, wherein the head assembly includes a plurality of electrical contacts arranged to contact a peripheral portion of the workpiece.

32. (Previously Presented) The apparatus of claim 31 wherein the electrode is a first electrode, and wherein the workpiece holder further comprises a workpiece support and a plurality of electrode fingers projecting from the workpiece support.

33. (Previously Presented) The apparatus of claim 31 wherein the flow control structure includes a diffuser plate.

34. (Previously Presented) The apparatus of claim 31 wherein the flow control structure includes a diffuser plate having perforations at the liquid pervious portion and no perforations at the liquid impervious portion.

35. (Previously Presented) The apparatus of claim 31 wherein the inner portion of the vessel has an inlet configured to be coupled to a source of processing liquid.

36. (Previously Presented) The apparatus of claim 31 wherein the flow control structure comprises a diffuser plate and wherein the electrode support comprises an anode shield.

37. (Previously Presented) The apparatus of claim 31 wherein the liquid pervious portion of the flow control structure is aligned with a central portion of the workpiece holder during processing, and wherein the liquid impervious portion of the flow control structure is positioned to align with a peripheral portion of the workpiece holder.

38. (Previously Presented) The apparatus of claim 31 wherein the wall between the inner portion and the outer portion of the vessel defines a weir over which processing fluid flows from the inner portion to the outer portion.

39. (Currently Amended) An apparatus for processing microelectronic workpieces, comprising:

a plating vessel having an inner cup and an outer portion positioned outwardly from the inner cup, the inner cup having a central axis and a cup side with an upper lip defining a weir at least proximate to a processing zone, and wherein

the cup side is positioned inwardly of the outer portion to define an overflow zone between the outer portion and the cup side;

an electrode support in the cup, the electrode support being configured to support an electrode under the processing zone;

a first electrode at the electrode support;

a flow control structure positioned between the electrode support and the processing zone, the flow control structure including a liquid pervious portion aligned with a first portion of the processing site, ~~and~~ a liquid impervious portion radially outward from the liquid pervious portion and aligned with a second portion of the processing site, and a plurality of fluid passageways in the liquid pervious portion, wherein the fluid passageways have a uniform size and spacing in the liquid pervious portion and are configured to reduce turbulence in the processing solution; and

a processing head having workpiece holder configured to hold a semiconductor workpiece at the processing zone, the workpiece holder including a rotor configured to rotate about an axis aligned with the central axis of the cup and a plurality of electrical contacts arranged to contact a peripheral portion of the workpiece.

40. (Previously Presented) The apparatus of claim 39 wherein the flow control structure comprises a diffuser plate.

41. (Previously Presented) The apparatus of claim 39 wherein the flow control structure comprises a diffuser plate having perforations at the liquid pervious portion and no perforations at the liquid impervious portion.

42. (Previously Presented) The apparatus of claim 39 wherein the inner cup has an inlet configured to be coupled to a source of processing liquid and to project processing fluid radially outward relative to the first electrode.

43. (Previously Presented) The apparatus of claim 42 wherein the flow control structure includes a diffuser plate.

44. (Previously Presented) The apparatus of claim 39 wherein the liquid pervious portion of the flow control structure is aligned with a central portion of a microelectronic workpiece when the microelectronic workpiece is carried at the processing zone, and wherein the liquid impervious portion of the flow control structure is aligned with a peripheral portion of the microelectronic workpiece outward from the central portion of the microelectronic workpiece.

45. (Previously Presented) The apparatus of claim 39 wherein the cup side has an inward facing surface and an outward facing surface, and wherein the liquid impervious portion of the flow control structure is positioned at least proximate to the inward facing surface.

46. (Previously Presented) The apparatus of claim 39 wherein cup side has an inward facing surface and an outward facing surface, and wherein the liquid impervious portion of the flow control structure abuts against the inward facing surface.

47. (Currently Amended) An apparatus for processing microelectronic workpieces, comprising:

a vessel having an inner portion and an outer portion outward from the inner portion, the vessel having a flow path along which the processing liquid flows from the inner portion to the outer portion;

a wall between the inner portion and the outer portion, the wall being positioned to contain processing liquid proceeding upwardly through the inner portion to the outer portion;

a head configured to carry a microelectronic workpiece, the head including a workpiece support having a plurality of electrical contacts arranged to engage a peripheral portion of a workpiece;

an electrode support positioned in the inner portion of the vessel and an electrode at the electrode support;

a flow control structure positioned along the flow path downstream of the electrode support, the flow control structure including a liquid pervious portion, ~~and~~ a liquid impervious portion annularly outwardly from the liquid pervious portion, and a plurality of fluid passageways in the liquid pervious portion, wherein the fluid passageways have a uniform size and spacing in the liquid pervious portion and are configured to reduce turbulence in the processing solution; and

a source of processing solution coupled in liquid communication with the inner portion of the vessel.

48. (Previously Presented) The apparatus of claim 47 wherein the wall between the inner portion and the outer portion of the vessel has an inward facing surface and an outward facing surface, and wherein the liquid impervious portion of the flow control structure abuts against the inward facing surface of the wall.

49-53. (Cancelled)